

REMARKS

The Office Action mailed July 6, 2004 has been reviewed and carefully considered. Claims 1-17 remain pending in this application, claims 1-12 having been withdrawn from consideration, the independent claims remaining 1 and 13. Claim 13 has been amended. Reconsideration of the above-identified application, as amended and in view of the following remarks, is respectfully requested.

Claims 13-17 stand rejected under 35 U.S.C. 112, first and second paragraph, as non-enabled and indefinite.

Firstly, to avoid any discrepancy, page 3 of the Office Action suggests that "the gas" has no antecedent basis in claim 13, apparently due to what appears to be a misreading of the claim. The applicants' copy of the claims shows the word "gas" appearing earlier in claim 13.

The bases cited for rejecting the claims under Section 112 are moot in view of the instant amendment of claim 13 for clarity. In view of this amendment, any grounds for rejection under the first or second paragraph of Section 112 are believed to have been overcome.

The amendment of claim 13 finds support in originally-filed claim 13 and in the specification (e.g., page 8, lines 1-7, 15-19; page 8, line 21 – page 9, line 10; page 10, lines 4-8).

Claims 13 and 14 stand rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 4,578,098 to Paek.

Claim 13 as amended recites:

an upper gas feeding section over said main body, wherein said upper gas

feeding section includes a first hollow rotary body having at least one radial passageway for gas; and a gas feeder for supplying, from one or more respective positions axially around the upper gas feeding section, a gas feed to the at least one passageway, said apparatus being configured to rotate said rotary body to cause non-uniform delivery of the gas to the fiber to create a temperature difference to reduce polarization mode dispersion of the fiber.

Paek fails to disclose or suggest, “an upper gas feeding section over said main body” as explicitly required by the language of claim 13, and fails to anticipate claim 13 for at least this reason.

Page 3 of the previous Office Action suggests that the “main body” of claim 13 corresponds to the portion of the Paek optical fiber 14 disposed below the furnace, i.e. what is enclosed by the copper shell 24.

However, since claim 13 is directed to an “apparatus for cooling an optical fiber,” the applicants fails to see what in Paek corresponds to the “optical fiber” explicitly mentioned in claim 13. Presumably, the “optical fiber” of claim 13 is the Paek optical fiber 14, in which case it is unclear how the “main body” in claim 13 could also properly be deemed to correspond to the Paek optical fiber 14.

The claim term “optical fiber” cannot be ignored. The claim 13 limitation “the longitudinal direction of the fiber,” which is meaningful to one of ordinary skill in the art, cannot be ignored in any valid application of prior art to the claim. At least for this reason, the claim term “fiber” cannot be ignored.

Each and every claim limitation must be disclosed by the reference for anticipation. In particular, Paek fails to disclose “a main body. . .; an upper gas feeding section over said main body” as explicitly required by the language of claim 13, and fails to

anticipate the invention as recited in claim 13 for at least this reason.

Paek is directed to an apparatus for controlling the tension applied to the fiber as it is being drawn into shape from the melting preform. A rotary sleeve is provided around a tube through which the fiber is drawn. The sleeve has openings or slits 40 that lead radially from the outside to the inside of the sleeve, each slit running longitudinally down the sleeve. The tube has similar openings 34. A design feature of the apparatus is that the misalignment of the sleeve opening 40 with tube opening 34, adjustable by revolving the rotary sleeve, can be varied to change the amount of air flowing into tube 32. The misalignment is normally set so as to limit the gas turbulence to a desired level, so as to avoid the creation of fiber diameter variations. The amount of misalignment also regulates the drawing tension on the fiber. Paek regulates the drawing tension to create a fiber with “acceptable transmission losses and strength characteristics” (col. 1, lines 28-29).

Unlike the present invention as recited in claim 13, Paek is not “configured to . . . rotate . . . to cause non-uniform delivery of the gas to the fiber to create a temperature difference to reduce polarization mode dispersion of the fiber.”

For this reason too, Paek fails to anticipate or render obvious the invention as recited in claim 13.

Claim 14 depends indirectly from claim 13 and therefore is deemed to be patentable over Paek for at least the same reasons.

Moreover, claim 14 depends directly from claim 17 which further distinguishes over Paek. In particular, claim 17 refers to the “hollow rotary body,”

“wherein said rotary body has . . . at least one slit in said inner surface along the longitudinal direction of the optical fiber.”

Page 3 of the previous Office Action suggests that the Paek opening 40 in sleeve 36 corresponds to the “slit in said inner surface” of the “hollow rotary body” of claim 13. To the contrary, however, the opening 40 extends entirely and radially through the sleeve 36, and cannot properly be characterized as a slit in the sleeve surface. For this reason too, Paek fails to anticipate the invention as recited in claims 14 and 17.

Claims 13-14 stand rejected under 35 U.S.C. 103(a) as unpatentable over Paek.

As has been demonstrated above, there is no suggestion in Paek or in what was known to those of ordinary skill in the art to modify Paek so as to create an embodiment that reads on claim 13 or 14.

Claims 13 and 15-16 stand rejected under 35 U.S.C. 103(a) as unpatentable over a common threaded nut.

Claim 13 explicitly recites “An apparatus for cooling an optical fiber . . . comprising . . . an upper gas feeding section” and therefore cannot be anticipated as is being suggested for at least this reason.

Due, at least to their dependency from claim 13, claims 15 and 16 are likewise deemed to be patentable over Paek, although each of claims 15 and 16 warrants further consideration based on its additional, individual merits.

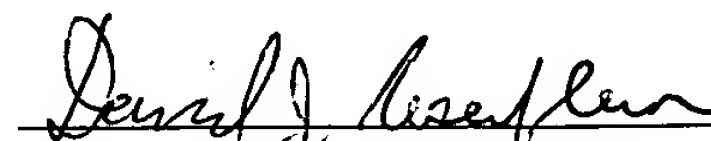
In view of the foregoing amendments and remarks, it is believed that this application is now in condition for allowance. The Examiner is invited to contact the

undersigned in the event of any perceived outstanding issues so that passage of the case to issue can be effected without the need for a further Office Action.

In the event that any additional fee is required to continue the prosecution of this Application as requested, please charge such fee to Deposit Account No. 502-470.

Respectfully submitted,

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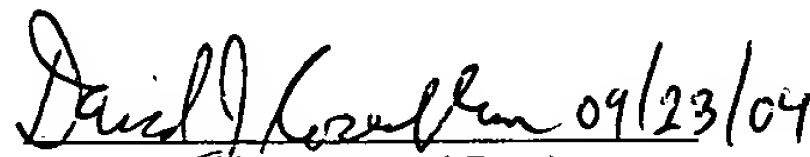
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